

AMENDMENTS TO THE CLAIMS

The following is a complete, marked-up listing of revised claims with a status identifier in parentheses, strikethrough indicating deletions, and underlining indicating insertions.

Listing of Claims

1. (Currently Amended) A computer-readable recording medium having a data structure for managing reproduction of at least video data representing multiple reproduction paths, comprising:

a data area storing at least video data as a transport stream in more than one stream file, each stream file associated with a different one of the multiple reproduction paths, and the stream files being interleaved with one another; and

a navigation area storing at least one navigation list file, the at least one navigation list file including at least a first navigation data item and a second navigation data item, ~~the at least one navigation list controlling a reproduction order of the navigation data items,~~ the first navigation data item referencing more than one map for managing the multiple reproduction paths, ~~each map for managing one of the multiple reproduction paths,~~ a flag being stored in the first navigation data item, the value of the flag indicating that the first navigation data item references more than one map, the first navigation data item including an indicator having a value of the number of reproduction paths associated with the first navigation data item, the second data item referencing

a single map for managing a single reproduction path, a flag being stored in the second navigation data item, the value of the flag indicating that the second navigation data item references a single map, each navigation data item including an identifier indentifying at least one map file associated with the navigation data item, the map file including at least one map referenced by the navigation data item ~~each map~~ providing position information ~~data~~ for the video data, the navigation list file being separate from the map file and stream files ~~of the file associated with the reproduction path managed by the map.~~

2. (Currently Amended) The recording medium of claim 1, wherein each stream file is divided into data blocks, and the stream files are interleaved with one another on a data block by data block basis.

3. (Original) The recording medium of claim 2, wherein each data block represents at least an intra-coded picture of video data.

4. (Previously Presented) The recording medium of claim 2, wherein each data block represents at least one group of transport packets of at least video data, each transport packet including a packet identifier (PID).

5. (Cancelled)

6. (Currently Amended) The recording medium of claim 1, wherein the

first and the second navigation data items provide navigation information for reproducing at least one of the stream files.

7-14. (Cancelled)

15. (Previously Presented) The recording medium of claim 1, wherein each reproduction path represents one of a digital channel and a sub-channel of an RF channel.

16. (Currently Amended) A method of recording a data structure for managing reproduction of at least video data representing multiple reproduction paths, comprising:

recording at least video data as a transport stream in more than one stream file on the recording medium, each stream file associated with a different one of the multiple reproduction paths, and the files being interleaved with one another; and

recording at least one navigation list file, one or more navigation data items and a plurality of map[[s]] files including maps, the at least one navigation list including at least a first navigation data item and a second navigation data item, ~~the at least one navigation list controlling a reproduction order of the navigation data items~~, the first navigation data item referencing more than one map for managing ~~a plurality of~~ the multiple reproduction paths, a flag being stored in the first navigation data item, the value of the flag

indicating that the first navigation data item references more than one map, the first navigation data item including an indicator having a value of the number of reproduction paths associated with the first navigation data item, the second data item referencing a single map for managing a single reproduction path, a flag being stored in the second navigation data item, the value of the flag indicating that the second navigation data item references a single map, each navigation data item including an identifier indentifying at least one map file associated with the navigation data item, the map file including at least one map referenced by the navigation data item ~~each map~~ providing position information data for the video data, the navigation list file being separate from the map file and stream files ~~of the file associated with the reproduction path managed by the map.~~

17. (Currently Amended) A method of reproducing a data structure for managing reproduction ~~duration~~ of at least video data representing multiple reproduction paths, comprising:

reading at least one navigation list file, one or more navigation data items and a plurality of map[[s]] files including maps, the at least one navigation list including at least a first navigation data item and a second navigation data item, ~~the at least one navigation list controlling a reproduction order of the navigation data items~~, the first navigation data item referencing more than one map for managing ~~a plurality~~ of the multiple reproduction paths, a flag being stored in the first navigation data item, the value of the flag indicating that the

first navigation data item references more than one map, the first navigation data item including an indicator having a value of the number of reproduction paths associated with the first navigation data item, the second data item referencing a single map for managing a single reproduction path, a flag being stored in the second navigation data item, the value of the flag indicating that the second navigation data item references a single map, each navigation data item including an identifier indentifying at least one map file associated with the navigation data item, the map file including at least one map referenced by the navigation data item ~~each map~~ providing position information data for the video data ~~of the file associated with the reproduction path managed by the map;~~ and

reproducing at least the video data as a transport stream in more than one stream file from a recording medium, each stream file associated with a different one of the multiple reproduction paths, and the stream files being interleaved with one another, the navigation list file being separate from the map file and stream files.

18. (Currently Amended) An apparatus for recording a data structure for managing reproduction ~~duration~~ at least video data representing multiple reproduction paths, comprising:

a pickup configured to record data on a recording medium; and

a controller, operably coupled to the pickup, configured to control recording at least video data as a transport stream in more than one stream file

on the recording medium, each stream file associated with a different one of the multiple reproduction paths, and the stream files being interleaved with one another, and the controller further configured to control recording at least one navigation list file, one or more navigation data items and a plurality of map[[s]] files including maps, the at least one navigation list including at least a first navigation data item and a second navigation data item, ~~the at least one navigation list controlling a reproduction order of the navigation data items~~, the first navigation data item referencing more than one map, ~~each map~~ for managing ~~one of~~ the multiple reproduction paths, a flag being stored in the first navigation data item, the value of the flag indicating that the first navigation data item references more than one map, the first navigation data item including an indicator having a value of the number of reproduction paths associated with the first navigation data item, the second data item referencing a single map for managing a single reproduction path, a flag being stored in the second navigation data item, the value of the flag indicating that the second navigation data item references a single map, each navigation data item including an identifier indentifying at least one map file associated with the navigation data item, the map file including at least one map referenced by the navigation data item ~~each map~~ providing position information data for the video data ~~of the file associated with the reproduction path managed by the map~~, the navigation list file being separate from the map file and stream files.

19. (Currently Amended) An apparatus for reproducing a data structure

for managing reproduction of at least video data representing multiple reproduction paths, comprising:

a pickup configured to reproduce data recorded on a recording medium;
and

a controller, operably coupled to the pickup, configured to control reproducing at least one navigation list file, one or more navigation data items and a plurality of map[[s]] files including maps, the at least one navigation list including at least a first navigation data item and a second navigation data item, ~~the at least one navigation list controlling a reproduction order of the navigation data items~~, the first navigation data item referencing more than one map, ~~each map~~ for managing ~~one of~~ the multiple reproduction paths, a flag being stored in the first navigation data item, the value of the flag indicating that the first navigation data item references more than one map, the first navigation data item including an indicator having a value of the number of reproduction paths associated with the first navigation data item, the second data item referencing a single map for managing a single reproduction path, a flag being stored in the second navigation data item, the value of the flag indicating that the second navigation data item references a single map, each navigation data item including an identifier indentifying at least one map file associated with the navigation data item, the map file including at least one map referenced by the navigation data item ~~each map~~ providing position information data for the video data ~~of the file associated with the reproduction path managed by the map~~, and the controller further configured to control

reproducing at least video data stored as a transport stream in more than one stream file from the recording medium according to the reproduced the at least one navigation list, each stream file associated with a different one of the multiple reproduction paths, and the stream files being interleaved with one another, the navigation list file being separate from the map file and stream files.

20. (Currently Amended) A method for creating a data structure for managing reproduction of at least video data representing multiple reproduction paths, comprising:

generating at least video data as a transport stream in more than one stream file, each stream file associated with a different one of the multiple reproduction paths, and the stream files being interleaved with one another; and

at least one navigation list file, the at least one navigation list file including at least a first navigation data item and a second navigation data item, ~~the at least one navigation list controlling a reproduction order of the navigation data items,~~ the first navigation data item referencing more than one map for managing the multiple reproduction paths, ~~each map for managing one of the multiple reproduction paths,~~ a flag being stored in the first navigation data item, the value of the flag indicating that the first navigation data item references more than one map, the first navigation data item including an indicator having a value of the number of reproduction paths

associated with the first navigation data item, the second data item referencing a single map for managing a single reproduction path, a flag being stored in the second navigation data item, the value of the flag indicating that the second navigation data item references a single map, each navigation data item including an identifier indentifying at least one map file associated with the navigation data item, the map file including at least one map referenced by the navigation data item ~~each map~~ providing position information ~~data~~ for the video data, the navigation list file being separate from the map file and stream files of the file associated with the reproduction path managed by the map.

21. (Currently Amended) The method of claim 16, wherein each stream file is divided into data blocks, and the stream files are interleaved with one another on a data block by data block basis.

22. (Previously Presented) The method of claim 21, wherein each data block represents a group of transport packets of at least of video data, each transport packet including a packet identifier (PID).

23. (Cancelled)

24. (Previously Presented) The method of claim 16, wherein each reproduction path represents one of a digital channel and a sub-channel of an RF channel.

25. (Currently Amended) The method of claim 17, wherein each stream file is divided into data blocks, and the stream files are interleaved with one another on a data block by data block basis.

26. (Previously Presented) The method of claim 25, wherein each data block represents a group of transport packets of at least of video data, each transport packet including a packet identifier (PID).

27. (Cancelled)

28. (Previously Presented) The method of claim 17, wherein each reproduction path represents one of a digital channel and a sub-channel of an RF channel.

29. (Currently Amended) The apparatus of claim 18, wherein the controller is configured to control recording each stream file being divided into data blocks, and the stream files are interleaved with one another on a data block by data block basis.

30. (Previously Presented) The apparatus of claim 29, wherein each data block represents a group of transport packets of at least of video data, each transport packet including a packet identifier (PID).

31. (Cancelled)

32. (Previously Presented) The apparatus of claim 18, wherein the controller is configured to control recording transport packets of each reproduction path representing one of a digital channel and a sub-channel of an RF channel.

33. (Currently Amended) The apparatus of claim 19, wherein the controller is configured to control reproducing each stream file being divided into data blocks, and the stream files are interleaved with one another on a data block by data block basis.

34. (Previously Presented) The apparatus of claim 33, wherein each data block represents a group of transport packets of at least of video data, each transport packet including a packet identifier (PID).

35. (Cancelled)

36. (Previously Presented) The apparatus of claim 19, wherein the controller is configured to control reproducing transport packets of each reproduction path representing one of a digital channel and a sub-channel of an RF channel.

37. (Previously Presented) The recording medium of claim 1, wherein the indicator of the first navigation data item has a value of the number of maps referenced by the first navigation data item.

38. (Previously Presented) The method of claim 16, wherein the indicator of the first navigation data item has a value of the number of maps referenced by the first navigation data item.

39. (Previously Presented) The method of claim 17, wherein the indicator of the first navigation data item has a value of the number of maps referenced by the first navigation data item.

40. (Previously Presented) The apparatus of claim 18, wherein the indicator of the first navigation data item has a value of the number of maps referenced by the first navigation data item.

41. (Previously Presented) The apparatus of claim 19, wherein the indicator of the first navigation data item has a value of the number of maps referenced by the first navigation data item.

42. (Previously Presented) The method of claim 20, wherein the indicator of the first navigation data item has a value of the number of maps referenced by the first navigation data item.

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